



3-11-04

PTO/SB/21 (08-03)

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| TRANSMITTAL FORM (to be used for all correspondence after initial filing) | Application Number | 10/731325 | |
| | Filing Date | December 5, 2003 | |
| | First Named Inventor | Subhash CHOPRA | |
| | Art Unit | N/A | |
| | Examiner Name | Not Yet Assigned | |
| Total Number of Pages in This Submission | 15 | Attorney Docket Number | FHW-130 |

| ENCLOSURES (Check all that apply) | | |
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| SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT | |
|--|---|
| Firm or Individual name | LAHIVE & COCKFIELD, LLP Anthony A. Laurentano - 38,220 |
| Signature | |
| Date | March 9, 2004 |

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EV 377652797 US, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450 Alexandria, VA 22313-1450, on the date shown below.

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Dated: March 9, 2004

Signature:

(Anthony A. Laurentano)

Docket No.: FHW-130
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Subhash Chopra *et al.*

Application No.: 10/731325

Confirmation No.: Not Yet Assigned

Filed: December 5, 2003

Art Unit: N/A

For: SYSTEM AND METHOD FOR
ACQUISITION, STORAGE AND DELIVERY
OF COMMUNICATIONS USAGE DATA
FROM COMMUNICATIONS RESOURCES

Examiner: Not Yet Assigned

CLAIM FOR PRIORITY AND SUBMISSION OF DOCUMENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicant hereby claims priority under 35 U.S.C. 119 based on the following prior foreign application filed in the following foreign country on the date indicated:


| <u>Country</u> | <u>Application No.</u> | <u>Date</u> |
|----------------|------------------------|------------------|
| United Kingdom | 0228370.3 | December 5, 2002 |

In support of this claim, a certified copy of the said original foreign application is filed herewith.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 12-0080, under Order No. FHW-130 from which the undersigned is authorized to draw.

Dated: March 9, 2004

Respectfully submitted,

By 
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10/731,325



INVESTOR IN PEOPLE

The Patent Office
Concept House
Cardiff Road
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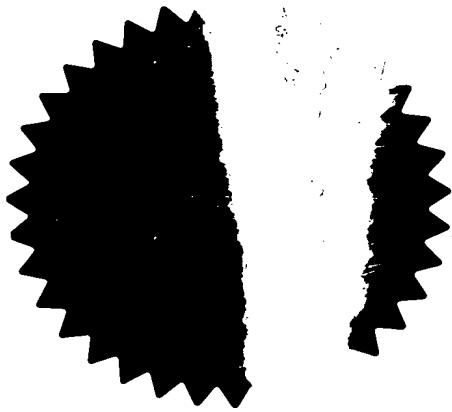
I, the undersigned, being an officer duly authorised in accordance with Section 74(1) and (4) of the Deregulation & Contracting Out Act 1994, to sign and issue certificates on behalf of the Comptroller-General, hereby certify that annexed hereto is a true copy of the documents as originally filed in connection with the patent application identified therein.

I also certify that the application is now proceeding in the name as identified herein.

In accordance with the Patents (Companies Re-registration) Rules 1982, if a company named in this certificate and any accompanying documents has re-registered under the Companies Act 1980 with the same name as that with which it was registered immediately before re-registration save for the substitution as, or inclusion as, the last part of the name of the words "public limited company" or their equivalents in Welsh, references to the name of the company in this certificate and any accompanying documents shall be treated as references to the name with which it is so re-registered.

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Signed

Stephen Hordley

Dated 8 January 2004



INVESTOR IN PEOPLE

GB0228370.3

By virtue of a direction given under Section 30 of the Patents Act 1977, the application is proceeding in the name of:-

BTS HOLDINGS PLC
Incorporated in the United Kingdom
BTS House
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United Kingdom
ADP No. 08778201001



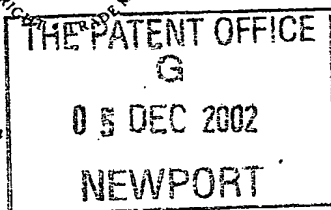
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Patents Act 1977
(Rule 16)



05DEC02 E768774-1 D02813

PO1/7700 0100-0228370.3



The Patent Office

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Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)

| | | | |
|--|--|--|-------------------------------------|
| 1. Your Reference | P51263D | | |
| 2. Patent Application Number (The Patent Office will fill in this part) | 0228370.3 | | |
| 3. Fill name, address and postcode of the or of each applicant (underline all surnames) | BTS Holdings Limited BTS House 69-73 Manor Road Wallington Surrey SM6 0DD England & Wales | | |
| Patents ADP number (if you know it) If the applicant is a corporate body, give the country/state of its incorporation | SECTION 30 (1977 ACT) APPLICATION FILED 1/12/03 8521163001 | | |
| 4. Title of the invention | System and Method for Acquisition, Storage and Delivery of Communications Usage Data from Communications Resources | | |
| 5. Name of you agent (if you have one) | Fry Heath & Spence LLP | | |
| "Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode) | The Gables Massetts Road Horley Surrey RH6 7DQ | | |
| Patents ADP number (if you know it) | 05880273001 8459554001 | | |
| 6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or each of these earlier applications and (if you know it) the or each application number. | Country | Priority application number (if you know it) | Date of filing (day / month / year) |
| 7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application. | Number of earlier application | | Date of filing (day / month / year) |
| 8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if: | Yes | | |
| a) any applicant named in part 3 is not an inventor, or b) there is an inventor who is not named as an applicant, or c) any named applicant is a corporate body. See note (d)) | | | |

Patents Form 1/77

9. Enter the number of sheets for any of the following items you are filing with this form. Do not count copies of the same document

Continuation sheets of this form None

Description 5 + 5

Claims(s) 2 + 2

Abstract 1 + 1

Drawing(s) 1 + 1

10. If you are also filing any of the following, state how many against each item.

Priority documents None

Translations of priority documents None

Statement of inventorship and right to grant of a patent (*Patents Form 7/77*) One + Three

Request for preliminary examination and search (*Patents Form 9/77*) One

Request for substantive examination (*Patents Form 10/77*) None

Any other documents (please specify) None

11. I/We request grant of a patent on the basis of this application.

Signature

My Health Spine

Date

4 December 2002

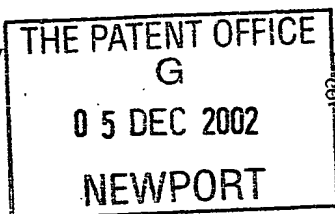
12. Name and daytime telephone number of person to contact in the United Kingdom Michael P Downing (01865) 841060

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7/77

**Statement of inventorship and of
right to grant of a patent**

The Patent Office

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South Wales
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| | |
|---|--|
| 1. Your Reference | P51263D |
| 2. Patent Application Number (if you know it) | 0228370.3 |
| 3. Fill name of the or of each applicant | BTS Holdings Limited |
| 4. Title of the invention | System and Method for Acquisition, Storage and Delivery of Communications Usage Data from Communications Resources |
| 5. State how the applicant(s) derived the right from the inventor(s) to be granted a patent | By virtue of section 39 of the Patents Act 1977 |
| 6. How many, if any, additional Patents Forms 7/77 are attached to this form? (see note (c)) | None |
| 7. | <p>I/We believe that the person(s) named over the page (and on any extra copies of this form) is/are the inventor(s) of the invention which the above patent application relates to.</p> <p>Signature _____ Date _____</p> <p><i>Tim Heath Jones</i> 4 December 2002</p> |
| 8. Name and daytime telephone number of person to contact in the United Kingdom | Michael P Downing (01865) 841060 |

Notes

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- When an application does not declare any priority, or declares priority from an earlier UK application, you must provide enough copies of this form so that the Patent Office can send one to each inventor who is not an applicant.
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Patents Form 7/77

Enter the full names, addresses and postcodes of the inventors in the boxes and underline the surnames

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Patents ADP number (if you know it)

Reminder
Have you signed the form?

DUPLICATE

-1-

System and Method for Acquisition, Storage and Delivery of Communications Usage Data from Communications Resources

FIELD OF THE INVENTION

The present invention relates to a system and method for the acquisition and storage of communications usage data from a plurality of communications resources and delivery, in various ways, of the data to a variety of subscribing management systems.

BACKGROUND ART

Modern communications resources come in a variety of forms – telephone, facsimile, email, web and so on. Most organisations use some or all of these media and need to ensure that they are used effectively. Therefore usage data must be gathered from a plurality of communications resources, and delivered to a variety of subscribing management systems.

SUMMARY OF THE INVENTION

The present invention therefore provides a networked computing means comprising a data acquisition agent with access to usage data (log files, databases, real-time status information, alarms etc) from a plurality of communications resources (arranged to produce communications usage data), a

storage agent to retain the communications usage data, and a delivery agent to transfer the communications usage data, in various ways, to a variety of subscribing management systems.

Suitable communications resources include PBX telephone systems, IP telephony systems, email servers, proxy servers, firewalls, switches, routers and web servers and mobile telephony and emerging media such as video conferencing systems etc.

An at least semi-permanent data link from the network to a variety of subscribing management systems will enable the delivery agent to transfer the communications usage data obtained from communications resources to these systems. The data link can be the Internet or a dial-up connection.

Thus, the present invention provides a communications data acquisition, storage and delivery system which, in preferred embodiments, can gather usage data from a plurality of communications resources, store the data and deliver data, in various ways, to a variety of subscribing management systems.

A database is preferably provided in a form accessible to the acquisition agent, storage agent and delivery agent that holds configuration information about the communications resources from which data is to be acquired, the storage options and the delivery requirements for the subscribing systems.

BRIEF DESCRIPTION OF THE DRAWINGS

An embodiment of the present invention will now be described by way of example, with reference to the accompanying figure 1 which is a logical diagram of the layout of the system

DETAILED DESCRIPTION OF THE EMBODIMENT

Public and private sector organisations are becoming increasingly dependent on communications. This means that monitoring of communications resources is becoming more important. This embodiment provides a system and method to acquire and store communications usage data from a plurality of

communications resources and to deliver this data, in various ways, to a variety of subscribing management systems.

System Areas

The system can reside either on an existing server (or servers), on a dedicated PC (or PCs), or on a dedicated embedded device (or devices). The following are the principal system areas, described with reference to figure 1.

Data Acquisition

The system includes an acquisition agent, which gathers usage data on communications activities by monitoring communications resources.

The system maintains a database of the communications resources from which it needs to acquire data. This database includes the communication resource type, the format of the usage data (log file, database, real-time output etc), details of the communications protocol to be used, usernames and passwords etc.

The acquisition agent described is arranged to monitor the following types of communications resources. The skilled person will realise that other resources could likewise be monitored.

Telephone System

When a call is made or received, a record of the call is created by the telephone system 12. This record is captured via a serial interface port 14 or over the LAN (Local Area Network) using TCP/IP. Both traditional PBXs (Private Branch Exchanges) and PBX networks are monitored, as well as more recent IP-based PBX solutions.

Email System

When an email is sent or received, a record is created and stored on the email server 16. The acquisition agent accesses this record via a local network link 20.

Proxy Server / Firewall / Switch / Router

When the Internet is accessed, records are created and stored on the proxy server, firewall, switch or router 18. The acquisition agent accesses these records via a local network link 22.

Web Server (Internet & Intranet)

When a web server is accessed, records are created and stored on the server 24. The acquisition agent accesses these records via a local network link 26.

Mobile Telephony

When a call is made or received by a mobile phone, the mobile service provider creates a record of the communication. This record can be provided on-line and the acquisition agent can access it.

Data Storage

The system includes a storage agent which stores the data acquired from the communications resources. Data is retained for a configurable period of time depending on the delivery method to be used. For immediate data delivery, data is only retained in the event that the communications link fails. For polled data delivery, the data is retained until the remote system retrieves it. For push data delivery, the data is retained until the push threshold (time and/or data size) is reached. The system maintains a database of these data storage parameters.

Data Delivery

The system includes a delivery agent which transfers the data to a variety of management systems. The data delivery system currently supports the following methods:

- Immediate – Data is forwarded to the subscribing management systems immediately it is received by the acquisition agent. Protocols supported include TCP/IP, Dial-up, and Serial. .
- Polled – Data is forwarded to the subscribing management systems when each management system contacts the delivery agent and requests the data. Protocols supported include TCP/IP, FTP, Email, Dial-up, Serial, and Zmodem.
- Push – Data is forwarded to the subscribing management systems when a threshold (time and/or data size) is reached. Protocols supported include TCP/IP, FTP, Email, Dial-up, Serial, and Zmodem.

The system maintains a database of the management systems to which it needs to send data. This database includes a list of subscribing systems, the delivery method, details of the communications protocol to be used, usernames and passwords etc.

Other delivery methods and protocols may emerge in the future.

The system can also provide status information on its performance and the volume of data gathered from the various sources. It is Internet-enabled and can be remotely upgraded and configured.

The system provides a comprehensive set of web-based tools to allow system administrators to maintain its configuration information.

Remote Sites

Many staff work away from the principal site or sites of an organisation. To cater for this, the system includes an at least semi-permanent data link 32 from the network to enable the system to obtain data from communications resources elsewhere 36, 38. The data link 32 can be the Internet or a dial-up connection. Alternatively a number of acquisition, storage and delivery systems may be deployed at remote locations.

CLAIMS

1. A data acquisition, storage and delivery system, comprising a networked computing means on which is provided:
 - an acquisition agent with access to usage data from a plurality of communications resources;
 - a storage agent arranged to store communications usage data from the plurality of communications resources; and
 - a delivery agent arranged to deliver communications usage data to a subscribing management system.
2. A data acquisition, storage and delivery system according to claim 1 in which the communications resources are selected from the group consisting of PBX telephone systems, IP telephony systems, email servers, proxy servers, firewalls, switches, routers, web servers, mobile telephony and other emerging media.
3. A data acquisition, storage and delivery system according to claim 1 or claim 2 in which the usage data is retained for a configurable period of time.
4. A data acquisition, storage and delivery system according to claim 1 or claim 2 in which the usage data is retained up to a configurable data file size.
5. A data acquisition, storage and delivery system according to any one of the preceding claims in which the usage data is retained when the communications link fails.
6. A data acquisition, storage and delivery system according to any one of claims 1 to 4 in which the usage data is delivered immediately to the subscribing management systems.

7. A data acquisition, storage and delivery system according to any one of claims 1 to 4 in which the usage data is polled by the subscribing management systems.
8. A data acquisition, storage and delivery system according to any one of claims 1 to 4 in which the usage data is pushed to the subscribing management systems when a threshold is reached.
9. A data acquisition, storage and delivery system according to any one of the preceding claims in which the usage data includes log files, databases, real-time status information, and/or alarms.
10. A data acquisition, storage and delivery system according to any one of the preceding claims including an at least semi-permanent data link from the network to a further communications resource.
11. A communications management system according to claim 10 in which the at least semi-permanent data link is the Internet.
12. A communications management system according to claim 10 in which the at least semi-permanent data link is a dial-up connection.
13. A communications management system substantially as described herein with reference to, and/or as illustrated in the accompanying figure.

ABSTRACT

SYSTEM AND METHOD FOR ACQUISITION, STORAGE AND DELIVERY OF
COMMUNICATIONS USAGE DATA FROM COMMUNICATIONS RESOURCES

A data acquisition, storage and delivery system comprising a networked computing means on which is provided an acquisition agent with access to usage data (log files, databases, real-time status information, alarms etc) from a plurality of communications resources (arranged to produce communications usage data), a storage agent arranged to retain the usage data from the plurality of communications resources, and a delivery agent that delivers the usage data, in various ways, to a variety of subscribing management systems. A database is preferably provided to hold configuration information for the acquisition, storage and delivery agents. Suitable communications resources include PBX telephone systems, IP telephony systems, email servers, proxy servers, firewalls, routers, web servers, mobile telephony and other emerging media.

(Fig 1)

Fig 1

